Test Report n° TR_19258

Rapporto di prova n° TR_19258

Degree of protection IPxn test

Test di protezione grado IPxn

Ref: test procedure IL 22017

Rif: procedura di test IL 22017

Product under testing ***Prodotto testato***	Compact TFT 32” Outdoor		
P/N ***P/N***	993201900100		
Lab Sample ID ***ID campione***	286 B	**Received date** ***Ricevuto il***	06/05/2019
Derived models ***Modelli derivati***	/		
Standard/Ed./Rev. date ***Standard/Ed./Data Revisione***	**EN 60529:1997 + A1:2000 + A2:2014** – Degrees of protection provided by enclosures (IP Code).		
Manufacturer ***Costruttore***	AESYS S.p.A. Via Pastrengo 7c 24068 Seriate (BG) Italia Tel: +39.0352924111 www.aesys.com		
Start test date ***Data inizio test***	28/06/2019	**End test date** ***Data fine test***	12/07/2019
First issue ***Prima emissione***	16/07/2019		
Laboratory technician ***Tecnico di laboratorio***	Magoni Mirco	Firma	
Lab Manager ***Responsabile di laboratorio***	Braschi Enrico	Firma	
Revision ***Revisione***	000	**Revision date** ***Data revisione***	16/07/2019

Revision	Reason	Name	Sign

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1 EUT – GENERAL PRODUCT INFORMATION
EUT – INFORMAZIONI GENERALI

The DUT (Device Under Test), named **Compact TFT 32" Outdoor**, is a variable message panel based on TFT technology used for video-information in railway applications.

DUT – Compact TFT 32" Outdoor

DUT – Product identification label

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2 TEST PROCEDURE
PROCEDURA DI TEST

The test was performed according to Aesys internal procedure *IL22017_Gradi di protezione IPxn.*

3 TEST EQUIPMENT INFORMATION
STRUMENTAZIONE UTILIZZATA

ID	Description	Model	Manufacturer	Serial n°	Last Calibration Date	Next Calibration Date
518	Flussimetro	FTV 225	Officine Orobiche	--	09-10-2018	10-10-2019
522	Cronometro	Kalenji	ONSTART 710	214431504/18	31-07-2018	01-08-2020

4 TEST PARAMETERS
PARAMETRI DI TEST

The test method is compliant to the requirements of standard EN 60529: *Degrees of protection provided by enclosures (IP Code).*

	IPx3	IPx4	IPx5	IPx6
Flow:	10 l/min ± 5%	10 l/min ± 5%	12,5 l/min ± 5%	100 l/min ± 5%
Duration:	1 min/m², at least 5 min	1 min/m², at least 5 min	1 min/m², at least 3 min	1 min/m², at least 3 min
Distance:	± 60° from vertical with shield	± 180° from vertical	from 2,5m to 3m	from 2,5m to 3m

Duration:

L (m)	H (m)	Area (m²)	Duration (1 min/ m²)	Test duration
0.834	0.528	0,44	Less than 1 min	3 min

Tightening torque (declared):	N/A	Tightening torque (measured):	N/A

Test measurements uncertainty: Flow: ± 5% l/min
Duration: ± 3s

The measurement uncertainties stated in this document are estimated as extended uncertainty obtained multiplying the standard uncertainty by the coverage factor *k* corresponding to a confidence level of about 95%.

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5 TEST SETUP
TEST SETUP

The EUT is placed in normal operating position inside the IP chamber. It is not required to operate the EUT during the test. The test is carried out wetting the casing uniformly with a water flow using a nozzle as defined by the standard.

6 TEST RESULT
RISULTATO DEL TEST

Environmental conditions	Performance criteria	Result	Verdict
Environmental temperature	Between +15°C and +35°C	30°C	**Pass**
Relative humidity	Between 25% and 75%	60%	**Pass**
Pressure	Between 860 and 1060 hPa	1050hPa	**Pass**

Test	Setup	Performance criteria	Result	Verdict
Degree of protection: IPX5	Water flow	12,5 l/min	12.5 l/min	**Pass**
	Duration of the test	1 min/m², at least 3 min	3 min	**Pass**
	Distance nozzle - EUT	from 2,5 m to 3 m	3 m	**Pass**

Requirements	Result	Verdict
No water inside the EUT or water not in contact with isolating parts, windings or near cable and connections.	No trace of water inside the EUT	**Pass**
No risk for the security	No trace of water in contact with isolating parts or live parts	**Pass**

6.1 SETUP PICTURES
FOTO DEL SETUP

Water pressure

Test setup - Front

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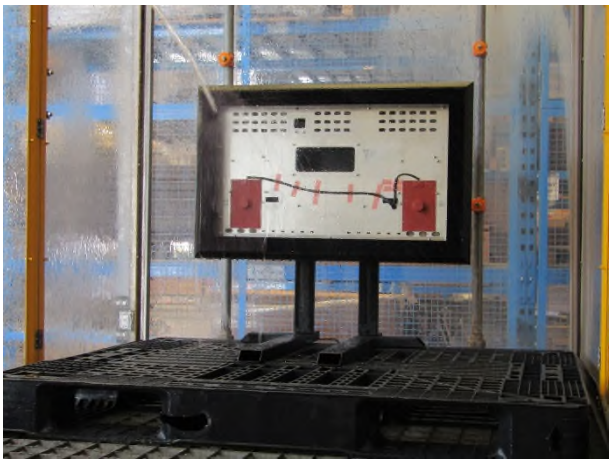
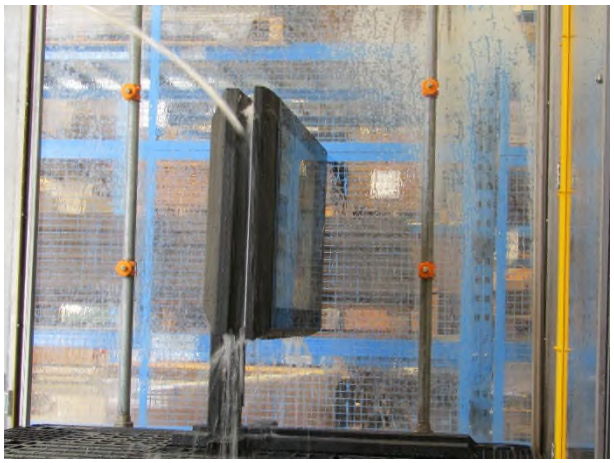
6.2 TEST PICTURES

TEST PICTURES



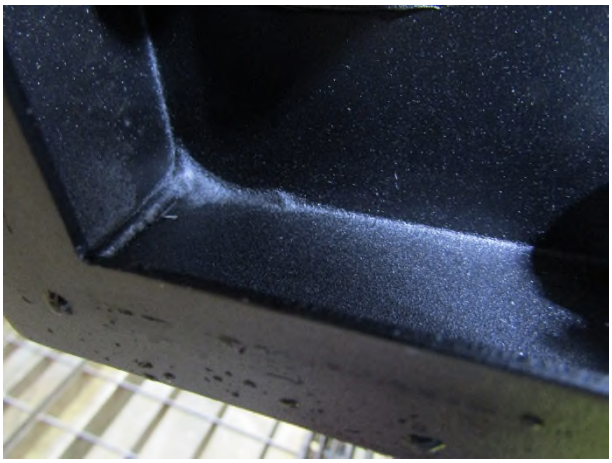
Testing – Front side



Testing – Lateral side

Testing – Back side

Testing – Lateral side



Result – No trace of water inside EUT

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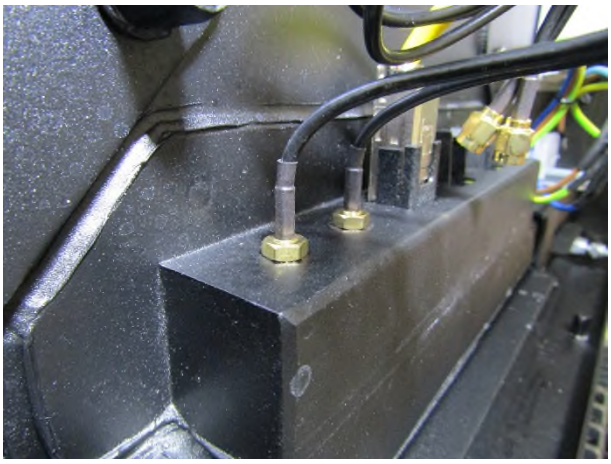

Result – No trace of water inside EUT

FINE DEL REPORT

End of test report

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